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OFFSHORE OPERATIONS

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ABOUT THE COVER: Statfjord B, the world's largest concrete platform, is also the first four-legged Condeep ever built. But it is only a portent of things to come (see p. 11). Cover photo shows base of Statfjord B under construction in Gandsfjord, near Stavanger, Norway.

NEXT MONTH: The annual Area of Promise issue in December takes a look at what operators are doing to accelerate production and improve recovery from old reservoirs that failed to qualify for workovers or infill drilling under previous pricing conditions.

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NOVEMBER 15, 1980 NUMBER 14 VOLUME 52

OFFSHORE OPERATIONS

Tomorrow's North Sea Platforms 11
by Steven D. Moore, Technical Editor
Unconventional offshore technology will be required to untap many reserves previously passed over as uncommercial.

Cast Steel Nodes – Inspection And Quality Control 21
by G. J. Marston, British Steel Corp.
Realization of advantages of cast joints depends on quality standards that will assure their outperformance of welded joints.

Modern Production Risers – Part 2 26
by George W. Morgan, Engineering Consultant
Form of the riser depends on design and implementation of the overall production system.

Jakob Eri Discusses Det Norske Veritas' Role In Offshore Oil 44
Exclusive interview with an executive vice president of Det norske Veritas. It started when Phillips began development of Ekofisk and Veritas was asked by the government to look after safety aspects.

How To Relate Basic Equations To Predict Gas Well Performance 56
by Zoltan Bessenyei, Mountain Fuel Supply Co.
The pressure-volume equation can be combined with the back-pressure formula and hyperbolic decline equation.

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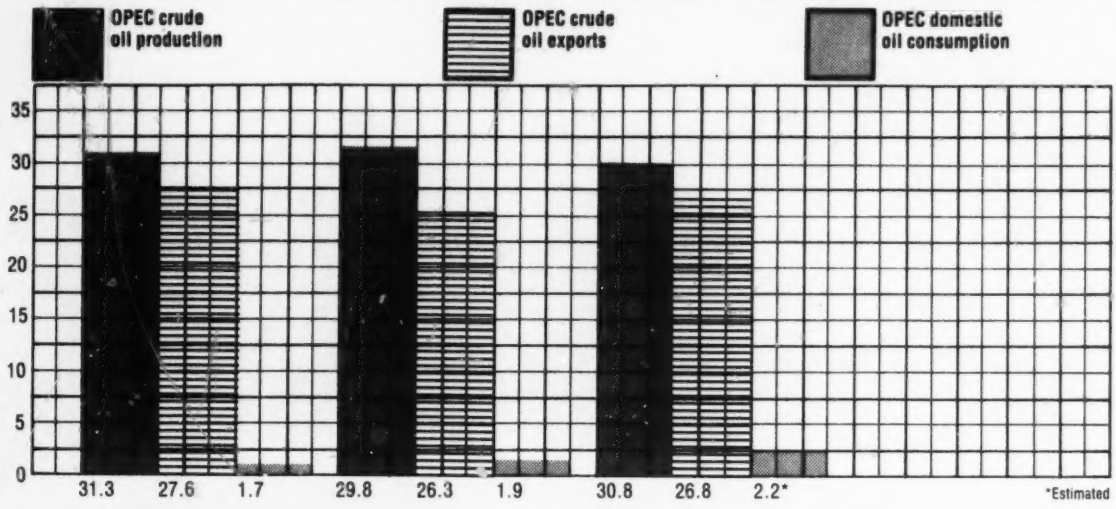
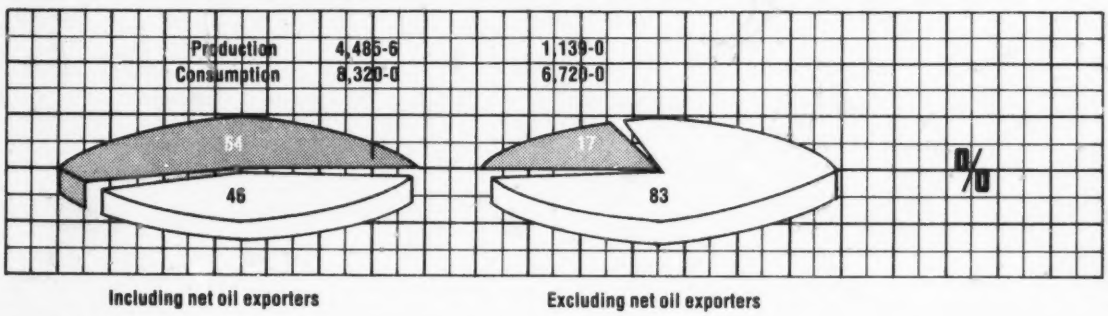
OPEC Statistics At A Glance

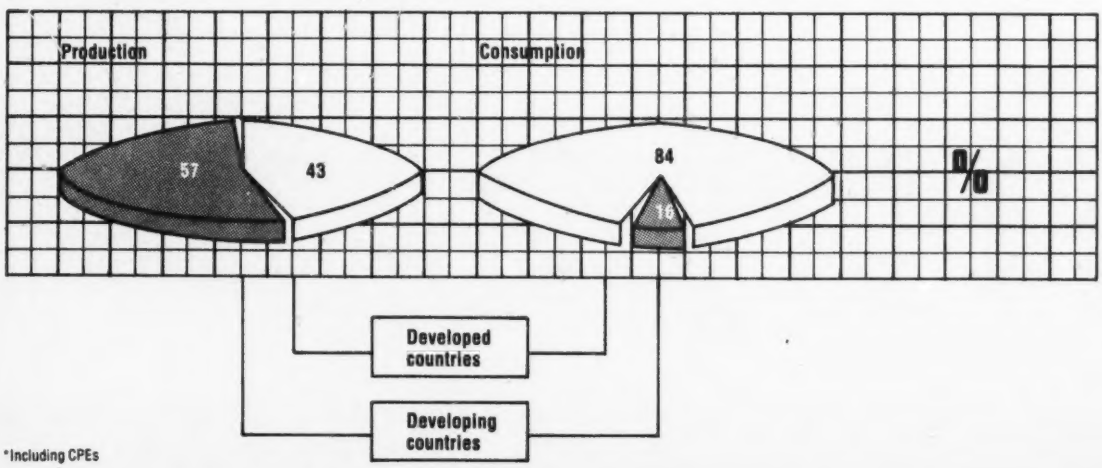
Main OPEC statistics at a glance, MMb/d



Non-OPEC developing countries oil production & consumption 1978, Mb/d



Comparison-oil production and consumption in developed* and developing countries — 1978



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OPEC Statistics At A Glance

(Continued)

Crude oil cost to consumers in real terms — 1972 U.S.$

	1972	1973	1974	1975	1976	1977	1978	1979 3rd quarter
Official price of Arabian Light (U.S.$/bbl)	1.90	2.22	9.74	10.72	11.51	12.70	12.70	18.00
Japan	1.90	1.67	6.05	6.59	6.70	6.33	4.89	7.13
Germany	1.90	1.74	6.55	6.54	7.24	6.67	5.63	7.07
France	1.90	1.71	6.28	6.50	7.27	7.74	6.48	7.90
UK	1.90	2.11	7.88	7.37	8.50	7.67	6.45	7.10
Italy	1.90	1.90	6.61	6.71	7.48	7.29	6.37	7.61
Netherlands	1.90	1.72	6.38	6.01*	7.09	6.72	5.79	7.54

*Based on first three quarters

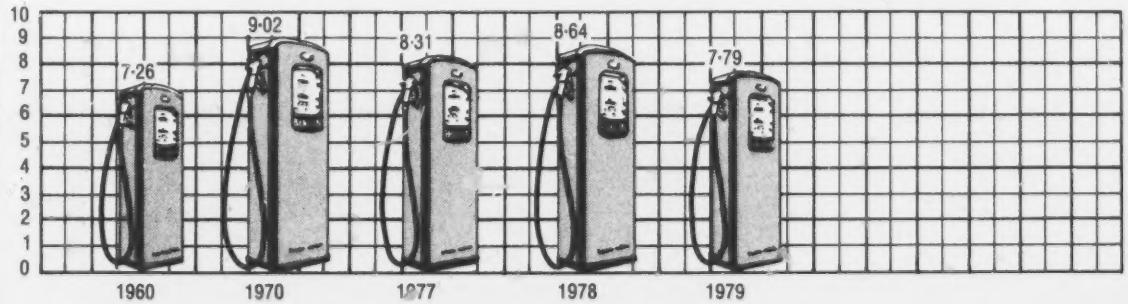
In 1979 OPEC official crude oil price increases added only 0.93% of the overall inflation in the major industrialized economies.

Gold and silver as compared to Arabian Light

		1960	1970	1977	1978	1979
Arabian Light	Average price (U.S.$/bbl)	1.73	1.67	12.40	12.70	17.28
	Index	100.00	96.53	716.76	734.10	998.84
Gold	Price (U.S.$/fine ounce)*	35.28	35.98	147.72	193.24	307.10
	Index	100.00	101.98	418.71	547.73	870.46
	How many fine gold ounces could be purchased for one barrel?	0.05	0.05	0.08	0.07	0.06
Silver	Price (U.S.$/troy ounce)**	0.091	1.77	4.62	5.40	11.05
	Index	100.00	193.76	505.80	590.91	1,214.29
	How many troy ounces of silver could be purchased for one barrel?	1.90	0.94	2.68	2.35	1.56

* London
** New York

Comparison of hourly wages and gasoline prices in the U.S. (gal/hr worked)



Taken from Facts & Figures, A Comparative Analysis, *Organization of the Petroleum Exporting Countries (June 1980) 11,12,13,19,20,21.*

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